Notes from the 11/15/04 Tevatron BPM Upgrade Meeting
Stephen Wolbers (with review by Brian, Jim and Rob)

Intro -- Steve Wolbers/Bob Webber

- The calibration discussion is meant to investigate calibration issues and to decide on how to proceed with bringing up the A3 system as well as how to move beyond that into full operation of the upgraded TeV BPM system.

- Bob mentioned that the question of tracking/testing the functionality and stability of the system should also be considered. This does not require the beam and is related to but not the same as diagnostics.

Rob Kutschke - Calibrations:

- Rob's slides can be found in AD doc #1451.

- The starting point for the discussion is a series of notes -- 1161 and 1205 in particular. Rob's discussion started from 1205 and he is proposing that it be used as the starting point for the A3 commissioning.

- Rob showed the formulae that apply for the antiproton measurement, relying on the cancellation of the proton contamination on the pbar pickups. There was some discussion of expanding this to include the pbar contamination on the proton signals so that the infrastructure and methodology is already established long before the pbar intensity is large enough to make a difference. Rob will think about this and adjust the formulae appropriately.

- The rest of the meeting was devoted to discussing strategy and details of calibration. Some tentative conclusions are:

= p position will be the most important issue for the first weeks of commissioning.

= During commissioning the front-end can be reloaded/rebooted quite often. This does not interfere with Tev operations and may be necessary to allow for quick debugging.

= A calibration program will produce updated calibration and will load them into a database and into the ACNET settings for those variables. From the ACNET settings the FE will be loaded with the proper values.

= The question of how often these values change was discussed. Clearly while the system is being commissioned there will be changes made often. Afterwards the system should be reasonably stable, where reasonably stable probably means that values that change less than some tolerance are not changed unless some specific action is taken to "recalibrate" the system. The Tevatron Department is presumably the arbitrator of this.

- We discussed the equations that convert I and Q values to position. The factor 26 was discussed. There will likely be 4 different values for each type of BPM in the Tevatron. We may set them all to 26 to begin with but we need the ability to set the 4 types to different values.

- We discussed SDA needs and concluded that raw and corrected values are needed for SDA.

- We discussed diagnostics and the need to build an application that can run certain diagnostics on all 27 crates and not just one at a time -- which is what R25 gives us now.

From Jim Steimel: We need an application that can run a series of electrical tests using the diagnostic reference signal on all BPMs simultaneously. Then it can store and analyze the results and look for signals that are out of tolerance.